To: Tenley, Clancy[Tenley.Clancy@epa.gov]
Cc: VIANU, LIBBY[vianu.libby@epa.gov]
From: Rayman, Jamie
Sent: Mon 8/17/2015 6:32:13 PM
Subject: RE: Data interpretation

Hi Clancy,

Yes, I am receiving your emails. Please copy Libby Vianu, ATSDR when you email me too. This help us keep our HQ in the loop.

vianu.libby@epa.gov

Thank you,

jamie

From: Tenley, Clancy
Sent: Monday, August 17, 2015 10:57 AM
To: Rayman, Jamie
Subject: Fw: Data interpretation

second of two data summaries that might be helpful to you. Probably more detail than you need. Talk soon. Please reply if you are receiving email.

From: Allen, HarryL
Sent: Sunday, August 16, 2015 10:26 PM
To: Montgomery, Michael; Manzanilla, Enrique; Tenley, Clancy
Subject: Data interpretation

EPA contends that variability of our most recent surface water data on the San Juan is consistent with pre event/historical variability in results from the San Juan watershed in general. Results suggest that the plume may have reached the Four Corners station on 8/11 as results seem to peak at the Four Corners station at that time.

Variability of data throughout the river system, compounded with events and inputs downstream, seem to mask the Gold King release event concentrations beyond Four

Corners. As examples, EPA believes that storms on 8/8 and 8/12 and likely contaminant input locations such as McElmo Creek and potentially the Chinle Wash possibly other significant non-point source inputs, create variability such that we cannot conclude that later results are related to the incident.

Is it safe?
Throughout the sampling period, across EPA and NNEPA's sampling stations, most metals results are under screening levels with some scattered peaks exceeding levels in point-to-point comparison. Results have also trended downward, presently below current standards. The Recreational Screening Levels EPA considered are meant to be protective for 64 day contact and ingestion exposures at a single place or point. Since that contact duration is typically unrealistic these comparisons are more conservative than typical risk assessment screening. Also, MCLs apply to drinking water at the tap and are not really suitable to exposures in or around the river.

For agricultural use, EPA compared all data from 8/12 to screening levels for irrigation and livestock. Based on data from that date from 8/12 concentrations appear to protective for irrigation and livestock.

For drinking water EPA contends that all water availabale to publicly operated potable sources should meet MCLs at distribution points. This is the case for water throughout the sampling period despite the plumes measurable impact. While EPA continues to screen and evaluate private water sources such as wells, Navajo Tribal Utilities Authority should be consulted about their ability to meet standards at their distribution points. Well water may not meet MCLs and EPA will evaluate these and provide water as requested.

How does this compare to background conditions?
EPA continues to sample and has begun monitoring the San Juan to draw comparisons to baseline conditions. We will continue to research information on a pre-event river conditions for evaluation and transmission to Navajo authorities. Sources of information include STORET data, USGS reports and Navajo SWQ assessment reports.

Risk Analysis - comparison of past data to standards (8/9-8/12)

8/12 Summary

1. All sediment metals concentrations were below human health recreational screening levels.

2. All surface water metals concentrations (both dissolved and total) were below human health recreational screening levels.
3. All surface water metals dissolved concentrations were below federal MCLs.

4. All aluminum SW dissolved concentrations met the current NN screening level (5,000 ppb dissolved).

5. All arsenic SW concentrations (both dissolved & total) met the current NN screening levels (200 ppb for livestock; 2,000 ppb for ag).

6. All cadmium SW concentrations (both dissolved & total) met the current NN screening levels (50 ppb for both livestock and ag).

7. All chromium SW concentrations (both dissolved & total) met the current and proposed NN screening levels (1,000 ppb for livestock [proposed] and ag [current]).

8. All cobalt SW concentrations (both dissolved & total) met the current NN screening levels (50 ppb dissolved for ag; 1,000 ppb dissolved for livestock) and proposed NN screening levels (50 ppb total for ag; 1,000 ppb total for livestock).

9. All copper SW concentrations (both dissolved & total) met the current NN screening levels (200 ppb dissolved for ag; 500 ppb dissolved for livestock) and proposed NN screening levels (20 ppb total for ag; 500 ppb total for livestock).

10. All lead SW concentrations (both dissolved & total) met the current NN screening levels (10,000 ppb total for ag) and proposed NN screening levels (100 ppb total for livestock).

11. All manganese SW concentrations (both dissolved & total) met the proposed NN screening level (10,000 ppb total for ag).

12. All molybdenum SW concentrations (both dissolved & total) met the current NN screening level (1,000 ppb dissolved for ag) and proposed NN screening level (500 ppb total for ag).

13. All selenium SW concentrations (both dissolved & total) met the current NN screening levels (20 ppb for ag and 50 ppb for livestock).

14. All vanadium SW concentrations met the current NN screening level (100 ppb dissolved for both ag and livestock) and the proposed NN screening levels for ag (10,000 ppb total).

15. All zinc SW concentrations (both dissolved & total) met the current NN screening levels (10,000 ppb for ag and 25,000 ppb for livestock).

August 10-11

1. All dissolved (with one exception) results meets Safe Drinking Water Act standards (MCLs) or, where none exist, screening levels for a 64-day recreational exposure. **The one exception being at McElmo Creek where lead slightly exceeded the MCL, but not the recreational screening level.**

2. Some total Al and Co results exceed MCLs (Mexican Hat location) and/or recreational screening levels.

August 9

1. All dissolved metal results meet Safe Drinking Water Act standards (MCLs) or, where none exist, meets health-based screening levels for a 64-day recreational exposure.

2. With a few exceptions (notably at Mexican Hat, the most downstream sample) total metals meet health-based screening levels for a 64-day recreational exposure and most meet Safe Drinking Water Act standards (MCLs) - **exceptions being mostly at Mexican Hat, but a few elsewhere.**

3. Peaks in metals concentrations for **most metals observed at the most downstream location (Mexican Hat).**